

REMARKS

Claims 1-39 are pending in the Application. Claims 1, 2, 12, 30 and 31 are rejected under 35 U.S.C. §102(e). Claims 3, 32, 33 and 34 are rejected under 35 U.S.C. §103(a). Claims 15-29 and 35-39 are allowed. Claims 4-11, 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

I. REJECTIONS UNDER 35 U.S.C. §102(e):

The Examiner has rejected claims 1, 2, 12, 30 and 31 under 35 U.S.C. §102(e) as being anticipated by Chandrasekaran (U.S. Patent No. 6,862,281). Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request that the Examiner reconsider and withdraw these rejections.

For a claim to be anticipated under 35 U.S.C. §102, each and every claim limitation must be found within the cited prior art reference and arranged as required by the claim. M.P.E.P. §2131.

Applicants respectfully assert that Chandrasekaran does not disclose "selecting a table to be accessed using said search key" as recited in claim 1. Applicants are unsure whether the Examiner has addressed this particular claim limitation and respectfully request the Examiner to more clearly address this claim limitation pursuant to 37 C.F.R. §1.104(c)(2). For instance, Applicants are unclear whether the Examiner is focusing on the "Protocol Table" (column 4, line 18) or the "Server Flow Table" (column 4, line 21) as allegedly disclosing the table recited in claim 1. In order to establish a *prima facie* case of anticipation, the Examiner must provide a reference that inherently or expressly discloses each limitation. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987); M.P.E.P. §2131. Thus, Chandrasekaran does not disclose all of the limitations of claim 1, and thus claim 1 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Applicants further assert that Chandrasekaran does not disclose "determining whether to identify said data structure associated with said packet of data using a content addressable memory or a tree based on a table definition of said selected table" as recited in claim 1. Based on Applicants' understanding, the Examiner appears to be citing to column 4, lines 18-22 and Figure 4 of Chandrasekaran as disclosing the above-cited claim limitation. Paper No. 5, page 3. Applicants respectfully traverse and assert that Chandrasekaran instead discloses that the lookup (referring to performing a direct lookup in the Protocol Table), which determines a pointer to the root tree for a particular server flow associated with the inbound packet, returns the value of the Server Flow Table root tree pointer sFlowRTP. Hence, Chandrasekaran simply discloses performing a lookup in the Protocol Table to obtain a value of a pointer. There is no language in the cited passage that discloses determining whether to identify a data structure using a content addressable memory or a tree. Neither is there any language in the cited passage that discloses determining whether to identify a data structure using a content addressable memory or a tree based on a table definition. Neither is there any language in the cited passage that discloses determining whether to identify a data structure using a content addressable memory or a tree based on a table definition of a selected table. Neither is there any language in the cited passage that discloses determining whether to identify a data structure associated with the received packet of data using a content addressable memory or a tree based on a table definition of a selected table. Thus, Chandrasekaran does not disclose all of the limitations of claim 1, and thus claim 1 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Applicants further assert that Chandrasekaran does not disclose "identifying said data structure associated with said packet of data in response to said determination step" as recited in claim 1. Applicants are unsure whether the Examiner has addressed this particular claim limitation and respectfully request the Examiner to more clearly address this claim limitation pursuant to 37 C.F.R. §1.104(c)(2). If the Examiner is citing column 4, lines 30-39; column 5, lines 1-5 and column 9, lines 29-32 of Chandrasekaran as disclosing the above-cited claim limitation, Applicants respectfully traverse.

Chandrasekaran instead discloses that if the sFlowRTP is a valid number, then step 220 performs the server information lookup using the server IP address and server port number fields from the packet header. Column 4, lines 30-32. Chandrasekaran further discloses that in order to perform this lookup, the server IP address and the server port number are concatenated and used as the lookup key in a CAM lookup. Column 4, lines 32-35. Chandrasekaran further discloses that the value returned by this lookup is the root tree pointer to the particular Client Flow Table containing the client flow routing information, designated cFlowRTP. Hence, the cited passage simply discloses using a lookup key to perform a CAM lookup. There is no language in the cited passage that discloses determining whether to identify a data structure using a content addressable memory or a tree based on a table definition. Neither is there any language that discloses identifying the data structure associated with the received packet of data in response to determining whether to identify a data structure using a content addressable memory or a tree based on a table definition. Thus, Chandrasekaran does not disclose all of the limitations of claim 1, and thus claim 1 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Further, Chandrasekaran instead discloses that matching entry 320 at address "N" thus provides, in some embodiments, a pointer to a secondary RAM structure containing the corresponding cFlowRTP. Column 5, lines 1-3. Chandrasekaran further discloses that in an alternate embodiment, address "N" can be used as the cFlowRTP directly. Column 5, lines 3-5. Hence, Chandrasekaran simply discloses that a matching entry provides a pointer to a secondary RAM structure containing the corresponding cFlowRTP or the matching entry can directly provide cFlowRTP. There is no language in the cited passage that discloses determining whether to identify a data structure using a content addressable memory or a tree based on a table definition. Neither is there any language that discloses identifying the data structure associated with the received packet of data in response to determining whether to identify a data structure using a content addressable memory or a tree based on a table definition. Thus, Chandrasekaran does not disclose all of the limitations of claim 1, and thus claim 1 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Furthermore, Chandrasekaran instead discloses performing a second lookup using the cFlowRTP and using one or more of the data fields as a second key to obtain a flow entry and switching the packet using the flow entry. Column 9, lines 29-32. There is no language in the cited passage that discloses determining whether to identify a data structure using a content addressable memory or a tree based on a table definition. Neither is there any language that discloses identifying the data structure associated with the received packet of data in response to determining whether to identify a data structure using a content addressable memory or a tree based on a table definition. Thus, Chandrasekaran does not disclose all of the limitations of claim 1, and thus claim 1 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Applicants further assert that Chandrasekaran does not disclose "transferring said search key to a content addressable memory by a tree search engine configured to identify said data structure associated with said packet of data" as recited in claim 30. Based on Applicants' understanding, the Examiner cites column 4, lines 18-22 of Chandrasekaran as disclosing the above-cited claim limitation. Paper No. 5, page 5. Applicants respectfully traverse and assert that Chandrasekaran instead discloses that the lookup (referring to performing a direct lookup in the Protocol Table), which determines a pointer to the root tree for a particular server flow associated with the inbound packet, returns the value of the Server Flow Table root tree pointer sFlowRTP. Hence, Chandrasekaran simply discloses performing a lookup in the Protocol Table to obtain a value of a pointer. There is no language in the cited passage that discloses transferring a search key to a content addressable memory. Neither is there any language in the cited passage that discloses transferring a search key to a content addressable memory by a tree search engine. Neither is there any language in the cited passage that discloses transferring a search key to a content addressable memory by a tree search engine configured to identify the data structure associated with the packet of data. Thus, Chandrasekaran does not disclose all of the limitations of claim 30, and thus claim 30 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Applicants further assert that Chandrasekaran does not disclose "identifying a particular entry number in said content addressable memory based on said search key" as recited in claim 30. Based on Applicants' understanding, the Examiner cites column 4, lines 30-39 of Chandrasekaran as disclosing the above-cited claim limitation. Paper No. 5, page 5. Applicants respectfully traverse and assert that Chandrasekaran instead discloses that if the sFlowRTP is a valid number, then step 220 performs the server information lookup using the server IP address and server port number fields from the packet header. Column 4, lines 30-32. Chandrasekaran further discloses that in order to perform this lookup, the server IP address and the server port number are concatenated and used as the lookup key in a CAM lookup. Column 4, lines 32-35. Chandrasekaran further discloses that the value returned by this lookup is the root tree pointer to the particular Client Flow Table containing the client flow routing information, designated cFlowRTP. Hence, the cited passage simply discloses using a lookup key to perform a CAM lookup. There is no language in the cited passage that discloses identifying a particular entry number in a content addressable memory. Neither is there any language in the cited passage that discloses identifying a particular entry number in a content addressable memory based on a search key. Thus, Chandrasekaran does not disclose all of the limitations of claim 30, and thus claim 30 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Applicants further assert that Chandrasekaran does not disclose "identifying said data structure associated with said packet of data based on said particular entry number in said content addressable memory" as recited in claim 30. Based on Applicants' understanding, the Examiner cites column 9, lines 29-32 of Chandrasekaran as disclosing the above-cited claim limitation. Paper No. 5, page 6. Applicants respectfully traverse and assert that Chandrasekaran instead discloses performing a second lookup using the cFlowRTP and using one or more of the data fields as a second key to obtain a flow entry and switching the packet using the flow entry. Column 9, lines 29-32. There is no language in the cited passage that discloses identifying a data structure. Neither is there any language in the cited passage that discloses identifying a data structure associated with the received packet of data. Neither is there any language in the cited passage that discloses identifying a

data structure associated with the received packet of data based on a particular entry number in a content addressable memory. Thus, Chandrasekaran does not disclose all of the limitations of claim 30, and thus claim 30 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Claims 2 and 12 each recite combinations of features of claim 1, and thus are not anticipated by Chandrasekaran for at least the above-stated reasons claim 1 is not anticipated by Chandrasekaran. Claim 31 recites combinations of features of claim 30, and thus is not anticipated by Chandrasekaran for at least the above-stated reasons claim 30 is not anticipated by Chandrasekaran. Claims 2, 12 and 31 recite additional features, which, in combination with the features of the claims upon which they depend, are not anticipated by Chandrasekaran.

For example, Chandrasekaran does not disclose "wherein if said table definition of said selected table determined to use said content addressable memory to identify said data structure then the method further comprises the steps of: transferring said search key to a tree search engine; and associating said search key with a particular thread number/table number pair" as recited in claim 2. The Examiner cites column 4, lines 18-22 and 30-39; column 5, lines 50-56 and Figure 4 of Chandrasekaran as disclosing the above-cited claim limitation. Paper No. 5, page 4. Applicants respectfully traverse.

Chandrasekaran instead discloses that the lookup (referring to performing a direct lookup in the Protocol Table), which determines a pointer to the root tree for a particular server flow associated with the inbound packet, returns the value of the Server Flow Table root tree pointer sFlowRTP. Column 4, lines 18-22. There is no language in the cited passage that discloses a table definition of a table determining to use the content addressable memory to identify a data structure. Neither is there any language in the cited passage that discloses transferring a search key to a tree search engine. Neither is there any language in the cited passage that discloses associating the search key with a particular thread number/table number pair. Thus, Chandrasekaran does not disclose all of the limitations of claim 2, and thus claim 2 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Further, Chandrasekaran instead discloses that if the sFlowRTP is a valid number, then step 220 performs the server information lookup using the server IP address and server port number fields from the packet header. Column 4, lines 30-32. Chandrasekaran further discloses that in order to perform this lookup, the server IP address and the server port number are concatenated and used as the lookup key in a CAM lookup. Column 4, lines 32-35. Chandrasekaran further discloses that the value returned by this lookup is the root tree pointer to the particular Client Flow Table containing the client flow routing information, designated cFlowRTP. Hence, the cited passage simply discloses using a lookup key to perform a CAM lookup. There is no language in the cited passage that discloses a table definition of a table determining to use the content addressable memory to identify a data structure. Neither is there any language in the cited passage that discloses transferring a search key to a tree search engine. Neither is there any language in the cited passage that discloses associating the search key with a particular thread number/table number pair. Thus, Chandrasekaran does not disclose all of the limitations of claim 2, and thus claim 2 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Further, Chandrasekaran instead discloses that one of ordinary skill in the art will readily see, however, that a number of different table organizations are equally applicable to CAM type lookups. Column 5, lines 52-54. Chandrasekaran further discloses that in particular, the well-known Patricia tree is familiar in the art as providing an even more efficient access structure for CAM type lookups. Column 5, lines 54-56. There is no language in the cited passage that discloses a table definition of a table determining to use the content addressable memory to identify a data structure. Neither is there any language in the cited passage that discloses transferring a search key to a tree search engine. Neither is there any language in the cited passage that discloses associating the search key with a particular thread number/table number pair. Thus, Chandrasekaran does not disclose all of the limitations of claim 2, and thus claim 2 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Applicants further assert that Chandrasekaran does not disclose "performing a particular action on said packet of data based on said data structure identified in said

data structure memory" as recited in claim 12. The Examiner cites column 5, lines 23-26 and 25-29 of Chandrasekaran as disclosing the above-cited claim limitation. Paper No. 5, page 4. Applicants respectfully traverse and assert that Chandrasekaran instead discloses that the client IP address and the client port number are used to determine the ultimate Layer 4 flow entry values unique to the combination of IP protocol, server flow, and client flow of the inbound packet. Column 5, lines 22-25. Chandrasekaran further discloses that the final lookup step returns the MAC rewrite information necessary to provide Layer 4 destination information for the packet's next hop. Column 5, lines 26-29. Hence, Chandrasekaran discloses determining the Layer 4 flow entry values using the client IP address and the client port number. Chandrasekaran further discloses providing the Layer 4 destination information for the packet's next hop. There is no language in the cited passages that discloses performing an action on a packet of data. Neither is there any language in the cited passages that discloses performing an action on a packet of data based on a data structure. Neither is there any language in the cited passages that discloses performing an action on a packet of data based on a data structure identified in a data structure memory. Thus, Chandrasekaran does not disclose all of the limitations of claim 12, and thus claim 12 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

Applicants further assert that Chandrasekaran does not disclose "wherein if said search key matches a particular entry in said content addressable memory then said content addressable memory returns said particular entry number" as recited in claim 31. The Examiner cites column 5, lines 1-5 of Chandrasekaran as disclosing the above-cited claim limitation. Paper No. 5, page 6. Applicants respectfully traverse and assert that Chandrasekaran instead discloses that matching entry 320 at address "N" thus provides, in some embodiments, a pointer to a secondary RAM structure containing the corresponding cFlowRTP. Column 5, lines 1-3. Chandrasekaran further discloses that in an alternate embodiment, address "N" can be used as the cFlowRTP directly. Column 5, lines 3-5. Hence, Chandrasekaran simply discloses that a matching entry provides a pointer to a secondary RAM structure containing the corresponding cFlowRTP or the matching entry can directly provide cFlowRTP. There is no language in the cited passage that discloses a content address



memory returning a particular entry number. Neither is there any language in the cited passage that discloses a content address memory returning a particular entry number if a search key matches a particular entry in the content addressable memory. Thus, Chandrasekaran does not disclose all of the limitations of claim 31, and thus claim 31 is not anticipated by Chandrasekaran. M.P.E.P. §2131.

As a result of the foregoing, Applicants respectfully assert that not each and every claim limitation was found within Chandrasekaran, and thus claims 1, 2, 12, 30 and 31 are not anticipated by Chandrasekaran. M.P.E.P. §2131.

## II. REJECTIONS UNDER 35 U.S.C. §103(a):

The Examiner has rejected claims 3, 32, 33 and 34 under 35 U.S.C. §103(a) as being unpatentable over Chandrasekaran in view of Hunter et al. (U.S. Patent No. 6,343,289) (hereinafter "Hunter"). Applicants respectfully traverse these rejections for at least the reasons stated below and respectfully request the Examiner to reconsider and withdraw these rejections.

### A. Chandrasekaran and Hunter, taken singly or in combination, do not teach or suggest the following claim limitations.

Applicants respectfully assert that Chandrasekaran and Hunter, taken singly or in combination, do not teach or suggest "wherein said search key is transferred to a particular address in a first register in said tree search engine, wherein said particular address in said first register is used to decode said particular thread number/table number pair associated with said search key" as recited in claim 3. The Examiner cites column 2, lines 49-55 of Hunter as teaching the above-cited claim limitation. Paper No. 5, page 7. Applicants respectfully traverse and assert that Hunter instead teaches that a request is made to load a first key from memory that is associated with a database entry. Column 2, lines 49-51. Hunter further teaches that in a pipelined manner, a subsequent request is made to load a next key from memory that is associated with a next database entry. Column 2, lines 51-53. Hunter further teaches that the load requests include outputting an address to the memory that corresponds to a location in memory storing the desired key. Column 2, lines 53-55. Hence, Hunter teaches loading keys from memory that are associated with database entries. There is

no language in the cited passage that teaches transferring a search key to particular address in a register. Neither is there any language in the cited passage that teaches transferring a search key to particular address in a register in a tree search engine. Neither is there any language in the cited passage that teaches transferring a search key to particular address in a register in a tree search engine where the particular address in the register is used to decode the particular thread number/table number pair associated with the search key. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 3, since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Applicants further assert that Chandrasekaran and Hunter, taken singly or in combination, do not teach or suggest "wherein if said search key does not match a particular entry in said content addressable memory then said content addressable memory returns a null pointer" as recited in claim 32. The Examiner cites column 1, lines 47-49 and column 9, lines 7-12 of Hunter as teaching the above-cited claim limitation. Paper No. 5, page 8. Applicants respectfully traverse and assert that Hunter instead teaches that the forwarding database entries include a pointer to the next entry in the bin or a null pointer if the entry happens to be the last one in the bin. Column 1, lines 46-49. Hunter further teaches that if the last entry in the hash bin has been reached, then no matching entry exists and the search is complete. Column 9, lines 8-10. Hence, Hunter teaches a forwarding database entry having a null pointer if the entry happens to be the last one in the bin and further teaches that once the last entry in the hash bin has been reached, the search is complete. While Hunter teaches a null pointer, Hunter does not teach a content addressable memory returning a null pointer if a search key does not match a particular entry in the content addressable memory. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 32, since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Applicants further assert that Chandrasekaran and Hunter, taken singly or in combination, do not teach or suggest "performing a search in said content addressable memory using said search key; and determining whether said search in said content addressable memory is complete" as recited in claim 33. As understood by Applicants, the Examiner cites column 1, lines 47-49 and column 9, lines 7-12 of Hunter as teaching the above-cited claim limitation. Paper No. 5, pages 8-9. Applicants respectfully traverse. As stated above, Hunter instead teaches that the forwarding database entries include a pointer to the next entry in the bin or a null pointer if the entry happens to be the last one in the bin. Column 1, lines 46-49. Hunter further teaches that if the last entry in the hash bin has been reached, then no matching entry exists and the search is complete. Column 9, lines 8-10. Hence, Hunter teaches a forwarding database entry having a null pointer if the entry happens to be the last one in the bin and further teaches that once the last entry in the hash bin has been reached, the search is complete. There is no language in the cited passages that teaches performing a search in a content addressable memory. Neither is there any language in the cited passages that teaches performing a search in a content addressable memory using a search key. Neither is there any language in the cited passages that teaches determining whether a search in a content addressable memory is complete. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 33, since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

Applicants further assert that Chandrasekaran and Hunter, taken singly or in combination, do not teach or suggest "wherein if said search in said content addressable memory is not complete then the method further comprises the step of: loading a register with a pointer, wherein said pointer points to said register" as recited in claim 34. As understood by Applicants, the Examiner cites column 1, lines 45-46 of Hunter as teaching the above-cited claim limitation. Paper No. 5, page 9. Applicants respectfully traverse and assert that Hunter instead teaches that the forwarding database entries include a pointer to the next entry in the bin or a null pointer if the entry happens to be the last one in the bin. Column 1, lines 46-49.

There is no language in the cited passage that teaches loading a register with a register where the pointer points to a register. Neither is there any language in the cited passage that teaches loading a register with a register where the pointer points to a register if the search in the content addressable memory is not complete. Therefore, the Examiner has not presented a *prima facie* case of obviousness in rejecting claim 34, since the Examiner is relying upon an incorrect, factual predicate in support of the rejection. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998).

B. Examiner has not provided a source of motivation or objective evidence for modifying Chandrasekaran with Hunter to include the limitation of claim 3.

Most if not all inventions arise from a combination of old elements. *See In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Obviousness is determined from the vantage point of a hypothetical person having ordinary skill in the art to which the patent pertains. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). Therefore, an Examiner may often find every element of a claimed invention may often be found in the prior art. *Id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *See Id.* In order to establish a *prima facie* case of obviousness, the Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). That is, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some case, the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Whether the Examiner relies on an express or an implicit showing, the Examiner must provide particular findings related thereto. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

The Examiner admits that Chandrasekaran does not teach "wherein said search key is transferred to a particular address in a first register in said tree search engine, wherein said particular address in said first register is used to decode said particular thread number/table number pair associated with said search key" as recited in claim 3. Paper No. 5, page 7. The Examiner modifies Chandrasekaran with Hunter to include the above-cited claim limitation "to provide an improved organization of a search of a table for efficiency and better processing time for processing a packet." Paper No. 5, page 8. The Examiner's motivation is insufficient to establish a *prima facie* case of obviousness in rejecting claim 3.

The Examiner has not provided a source for his motivation for modifying Chandrasekaran with Hunter to include the above-cited claim limitation<sup>1</sup>. The Examiner simply states "to provide an improved organization of a search of a table for efficiency and better processing time for processing a packet" as motivation for modifying Chandrasekaran with Hunter to include the limitations recited in claim 3. The motivation to modify Chandrasekaran must come from one of three possible sources: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-48 (Fed. Cir. 1998). The Examiner has not provided any evidence that his motivation comes from any of these sources. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner's motivation is insufficient to support a *prima facie* case of obviousness for rejecting claim 3. *Id.*

Furthermore, the Examiner's motivation ("to provide an improved organization of a search of a table for efficiency and better processing time for

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<sup>1</sup> The Examiner simply cites to column 5, lines 50-56 of Chandrasekaran as motivation to search the table of the lookup engines in a fast and efficient matter. Paper No. 5, page 7. However, claim 3 does not recite searching the table of lookup engines. Hence, as understood by Applicants, column 5, lines 50-56 of Chandrasekaran is not the source of motivation for modifying Chandrasekaran to include the limitations of claim 3.

processing a packet") does not provide reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would modify Chandrasekaran to include the claim limitations of claim 3. According, the Examiner has not presented a *prima facie* case of obviousness for rejecting claim 3. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998).

Chandrasekaran addresses the problem of rapidly accessing a single CAM or other lookup device with a very wide key and return lookup results quickly and efficiently. Column 2, lines 37-39. The Examiner has not provided any reasons as to why one skilled in the art would modify Chandrasekaran, which teaches rapidly accessing a single CAM or other lookup device with a very wide key and return lookup results quickly and efficiently, to have a search key transferred to a particular address in a register in a tree search engine (Examiner admits that Chandrasekaran does not teach this limitation). Neither has the Examiner provided any reasons as to why one skilled in the art would modify Chandrasekaran to have a search key transferred to a particular address in a register in a tree search engine, where the particular address in the register is used to decode the particular thread number/table number pair associated with the search key. The Examiner's motivation ("to provide an improved organization of a search of a table for efficiency and better processing time for processing a packet") does not provide such reasoning. The Examiner has not provided a rationale connection between providing an improved organization of a search of a table for efficiency and better processing time for processing a packet and the limitation of "wherein said search key is transferred to a particular address in a first register in said tree search engine, wherein said particular address in said first register is used to decode said particular thread number/table number pair associated with said search key" as recited in claim 3. The Examiner has not explained how providing an improved organization of a search of a table for efficiency and better processing time for processing a packet necessarily would cause one skilled in the art to modify Chandrasekaran to have a search key transferred to a particular address in a register in a tree search engine, where the particular address in the register is used to decode the particular thread number/table number pair associated with the search key. The Examiner must provide objective evidence in modifying Chandrasekaran to

include the missing limitations of claim 3. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Instead, the Examiner is merely relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness in rejecting claim 3. *Id.* Consequently, the Examiner's motivation is insufficient to support a *prima facie* case of obviousness for rejecting claim 3. *Id.*

C. Examiner has not provided a source of motivation or objective evidence for modifying Chandrasekaran with Hunter to include the limitation of claim 32.

As stated above, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some case, the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). Whether the Examiner relies on an express or an implicit showing, the Examiner must provide particular findings related thereto. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

The Examiner admits that Chandrasekaran does not teach "wherein if said search key does not match a particular entry in said content addressable memory then said content addressable memory returns a null pointer" as recited in claim 32. Paper No. 5, page 8. The Examiner modifies Chandrasekaran with Hunter to include the above-cited claim limitation "to provide a detection means of when the key search is complete and whether or not the pointer returned is void." Paper No. 5, page 8. The Examiner's motivation is insufficient to establish a *prima facie* case of obviousness in rejecting claim 32.

The Examiner has not provided a source for his motivation for modifying Chandrasekaran with Hunter to include the above-cited claim limitation<sup>2</sup>. The

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<sup>2</sup> The Examiner simply cites to column 5, lines 10-12 of Chandrasekaran as motivation in testing the validity of the returned pointers. Paper No. 5, page 8. However, claim 32 does not recite testing the validity of the returned pointers. Hence, as understood by Applicants, column 5, lines 10-12 of Chandrasekaran is not the source of motivation for modifying Chandrasekaran to include the limitations of claim 32.

Examiner simply states "to provide a detection means of when the key search is complete and whether or not the pointer returned is void" as motivation for modifying Chandrasekaran with Hunter to include the limitations recited in claim 32. The motivation to modify Chandrasekaran must come from one of three possible sources: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-48 (Fed. Cir. 1998). The Examiner has not provided any evidence that his motivation comes from any of these sources. Instead, the Examiner is relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Consequently, the Examiner's motivation is insufficient to support a *prima facie* case of obviousness for rejecting claim 32. *Id.*

Furthermore, the Examiner's motivation ("to provide a detection means of when the key search is complete and whether or not the pointer returned is void") does not provide reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would modify Chandrasekaran to include the claim limitations of claim 32. According, the Examiner has not presented a *prima facie* case of obviousness for rejecting claim 32. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998).

Chandrasekaran addresses the problem of rapidly accessing a single CAM or other lookup device with a very wide key and return lookup results quickly and efficiently. Column 2, lines 37-39. The Examiner has not provided any reasons as to why one skilled in the art would modify Chandrasekaran, which teaches rapidly accessing a single CAM or other lookup device with a very wide key and return lookup results quickly and efficiently, to have a content addressable memory return a null pointer if the search key does not match a particular entry in the content addressable memory (Examiner admits that Chandrasekaran does not teach this limitation). The Examiner's motivation ("to provide a detection means of when the key search is complete and whether or not the pointer returned is void") does not provide such reasoning. The Examiner has not provided a rationale connection



between providing a detection means of when the search is complete and whether or not the pointer returned is void and the limitation of "wherein if said search key does not match a particular entry in said content addressable memory then said content addressable memory returns a null pointer" as recited in claim 32. The Examiner has not explained how providing a detection means of when the key search is complete and whether or not the pointer returned is void necessarily would cause one skilled in the art to modify Chandrasekaran to have a content addressable memory return a null pointer if the search key does not match a particular entry in the content addressable memory. The Examiner must provide objective evidence in modifying Chandrasekaran to include the missing limitations of claim 32. *In re Lee*, 61 U.S.P.Q.2d 1430, 1434 (Fed. Cir. 2002). Instead, the Examiner is merely relying upon his own subjective opinion which is insufficient to support a *prima facie* case of obviousness in rejecting claim 32. *Id.* Consequently, the Examiner's motivation is insufficient to support a *prima facie* case of obviousness for rejecting claim 32. *Id.*

D. Examiner has not provided any motivation for modifying Chandrasekaran with Hunter to include the limitation of claim 33.

As stated above, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some case, the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner admits that Chandrasekaran does not teach the limitations of claim 33. Paper No. 5, page 9. The Examiner concludes that the combination of Chandrasekaran and Hunter teaches the limitations of claim 33. Paper No. 5, page 9. The Examiner though has not provided any motivation for modifying Chandrasekaran with Hunter to perform a search in the content addressable memory using the search key, as recited in claim 33. Neither has the Examiner provided any motivation for modifying Chandrasekaran with Hunter to determine whether the search in the content addressable memory is complete, as recited in claim 33. Since the Examiner has not provided such motivation, the Examiner has not provided a *prima facie* case of obviousness in rejecting claim 33.

*See In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999); M.P.E.P. §2143.

E. Examiner has not provided any motivation for modifying Chandrasekaran with Hunter to include the limitation of claim 34.

As stated above, the Examiner must provide some suggestion or motivation, either in the references themselves, the knowledge of one of ordinary skill in the art, or, in some case, the nature of the problem to be solved, to modify the reference or to combine reference teachings. *See In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Examiner admits that Chandrasekaran does not teach the limitations of claim 34. Paper No. 5, page 9. The Examiner concludes that the combination of Chandrasekaran and Hunter teaches the limitations of claim 34. Paper No. 5, page 9. The Examiner though has not provided any motivation for modifying Chandrasekaran with Hunter to load a register with a pointer, where the pointer points to the register, if the search in the content addressable memory is not complete, as recited in claim 34. Since the Examiner has not provided such motivation, the Examiner has not provided a *prima facie* case of obviousness in rejecting claim 34. *See In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999); M.P.E.P. §2143.

III. ALLOWABLE SUBJECT MATTER:

The Examiner has allowed claims 15-29 and 35-39. Paper No. 5, page 9. The Examiner has objected to claims 4-11, 13 and 14 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Paper No. 5, page 10. Applicants appreciate the allowance of claims 15-29 and 35-39 and the indication of allowability of claims 4-11, 13 and 14.

IV. CONCLUSION

As a result of the foregoing, it is asserted by Applicants that claims 1-39 in the Application are in condition for allowance, and Applicants respectfully request an allowance of such claims. Applicants respectfully request that the Examiner call Applicants' attorney at the below listed number if the Examiner believes that such a discussion would be helpful in resolving any remaining issues.

Respectfully submitted,

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